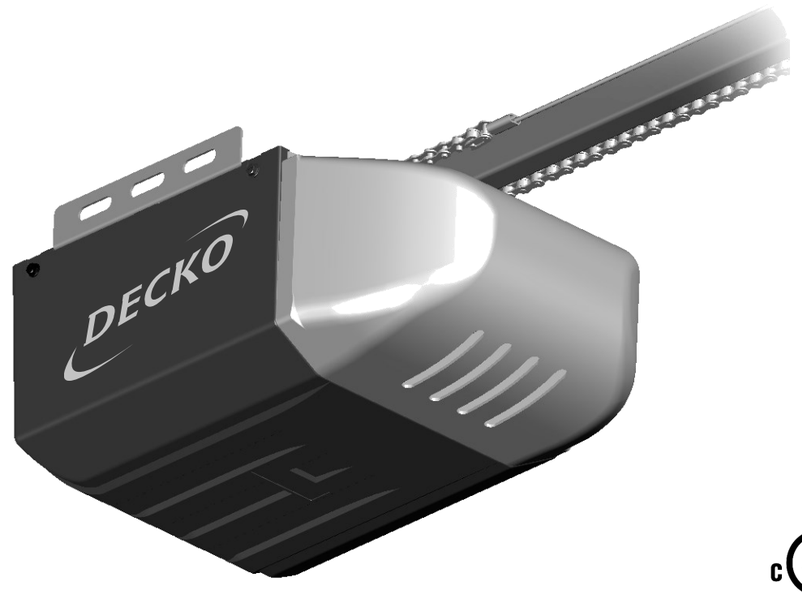
DECKO

GARAGE DOOR OPENER

MODEL: 24000-DKO
HANDLES DOORS 18 FT. WIDE & UP TO 7FT.TALL

For Use With Residential Sectional Garage Doors Only



c UL us LISTED

Owner's Manual

- **Please read and understand this manual and safety instructions carefully before installation.**
- **The Opener WILL NOT CLOSE until the Photo Eye Safety System is properly installed and aligned.**
- **REGULARLY CHECK and TEST the Opener according to the safety label to ENSURE SAFE OPERATION.**
- **Retain this manual for future reference.**

Serial # __ __ __ __ __ __ __ Date Installed __ __ /__ __ /__ __ __ __

www.deckogdo.com
1-877-GDO-4402
1-877-436-4402

GDO Manual Revised: 05-10

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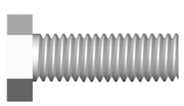
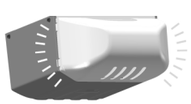
Symbols and Icons

⚠ **WARNING** READ WARNINGS CAREFULLY to prevent **SERIOUS INJURY or DEATH** caused by electrocution or mechanical hazard.

DO NOT connect power

Please connect power

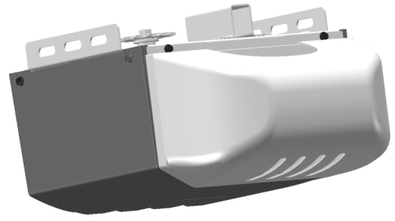

Installation hardware


Courtesy light turns on/flashes with audible ‘click’.
(If light bulb is not installed, ‘click’ represents the light)

NOTES

NOTES

Inventory

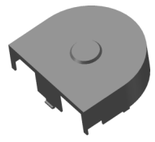


Opener Unit + Lamp Dome

Rail — Header Segment

Rail — Middle Segments x3

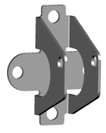
Rail — End Segment with Trolley Stop Bolt



Sprocket Cover

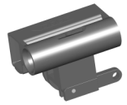
Single-Button Transmitter

Wall Panel



Header Bracket

Pulley



Trolley

Trolley Shaft and Cable

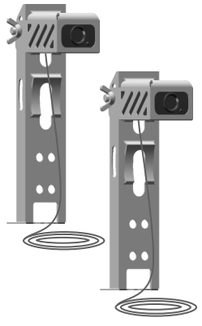
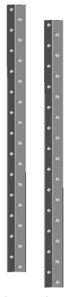


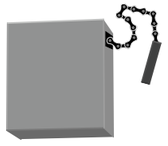
Photo Eye Safety System

Emergency Release Knob + Rope

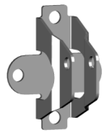
Literature + Safety Labels



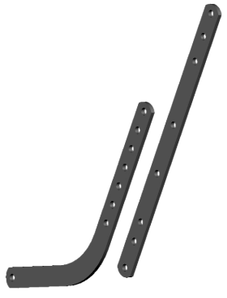
Hanging Brackets



Chain



Door Bracket



Door Arms

INSTALLATION HARDWARE, LOCATED IN HARDWARE BAG (SHOWN IN ACTUAL SIZE)

x 2

Clevis Pin — Door arms
5/16” x 1”

x 1

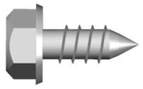
Clevis Pin — Header Bracket
5/16” x 1-1/2”

x 1

Clevis Pin — Pulley
3/8” x 1-3/4”

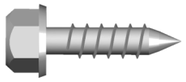
x 4

Hitch Pin — Locking Clevis Pins



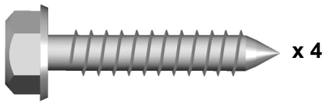
x 2

Self-Threading Screw 1/4” x 5/8”
Door Bracket



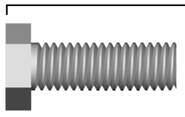
x 4

Lag Screw #12 x 1”— Photo Eye System



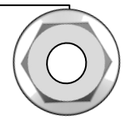
x 4

Lag Screw 5/16” x 1-1/2”
— Header Bracket / Mounting Opener



x 4

Bolt 5/16” x 1”
— Door arms / Mounting Opener



x 4

5/16” Flange Nut

x 2

Screw #6 x 1” - Wall Panel

x 2

Drywall Anchor - Wall Panel

x 1

Master Link Set
—Trolley Shaft

x 30

Insulated Staples
— Securing wires

Preparation

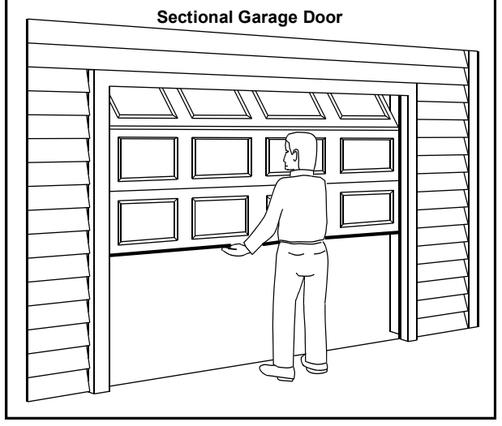
⚠ WARNING

To prevent SERIOUS INJURY or DEATH:

- Before beginning installation of the Opener please complete the following test to ensure that your door is balanced and in good working condition.
- A poorly balanced door can cause serious injury and damage to the Opener.
- Always have a qualified garage door service technician make any required adjustments and/or repairs to your door before proceeding with installation.
- DISABLE ALL LOCKS and REMOVE ALL ROPES connected to the garage door BEFORE installing and/or operating the Opener.

To prevent damage to the door and Opener:

- DO NOT connect power until instructed.
- Operate this Opener with AC 120V/60Hz power supply ONLY.



BEFORE Beginning Installation:

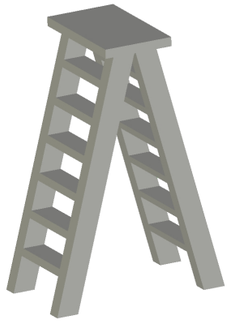
1. **Disable locks and remove all ropes connected to the garage door.**
2. **Perform the following door test to ensure your door is balanced and in good working condition.**

To Test Your Garage Door

1. Raise and lower the door to check if there is any sticking or binding.
2. Check for loose hinges, damaged rollers, frayed cables and damaged or broken springs.
3. Lift the door approximately halfway and release. The door should stay at the point under proper spring tension.

Call a qualified garage door service technician if your door binds, sticks or is unbalanced.

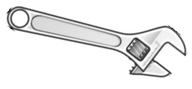
Tools Required

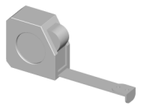

Step Ladder

Level

Pencil

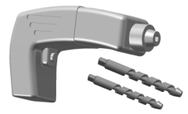
Screwdriver


Adjustable Wrench


Tape Measure

Pliers

Ratchet with
5/16”, 7/16” and 1/2” sockets


Drill, 3/16” and 5/16” Drill Bits

Hack Saw

Hammer

Warranty

LIMITED WARRANTY AND LIMITATION OF LIABILITY

Decko Products warrants, to the first purchaser of this product, for the initial residence in which it is installed, to be free from defects in materials and or workmanship for a period of 1 YEAR from date of purchase and that the motor to be free from defects in materials and or workmanship for a period of 6 YEARS from date of purchase. As the sole and exclusive remedy for a breach of this limited warranty, if the product is found by Decko Products to be defective, Decko Products, at its option, will repair or replace the product with an equivalent product if it is returned to the place of purchase or returned with proof of purchase post paid to

Decko Products,
ATTN: Warranty Dept.,
2301 Traffic St. NE
Minneapolis, MN 55413

ANY DISASSEMBLY, MODIFICATION, OR ABUSE OF THIS PRODUCT VOIDS THIS LIMITED WARRANTY.

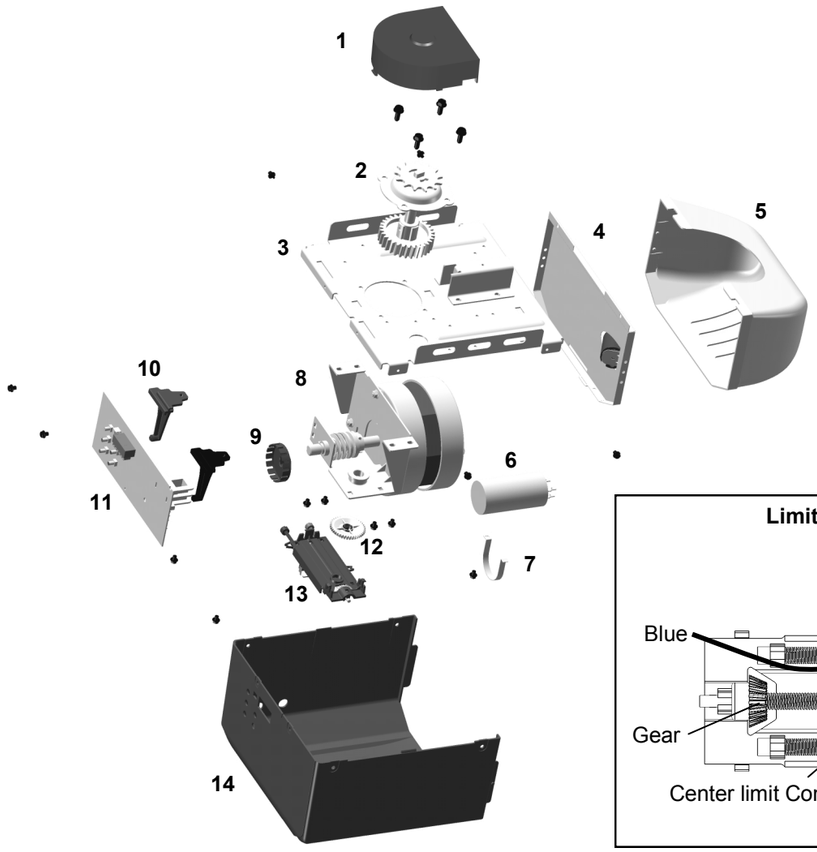
DECKO DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

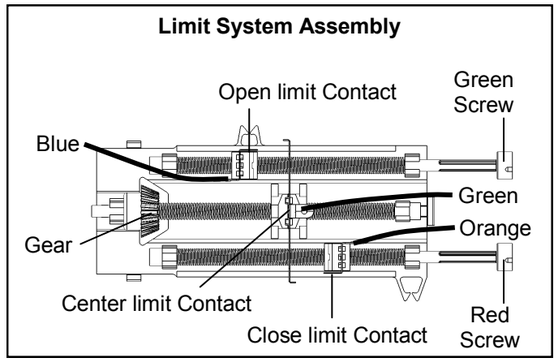
THIS LIMITED WARRANTY DOES NOT COVER ANY PROBLEMS WITH OR RELATED TO THE GARAGE DOOR OR GARAGE DOOR HARDWARE. THIS INCLUDES BUT IS NOT LIMITED TO THE DOOR SPRINGS, DOOR ROLLERS, DOOR ALIGNMENT OR DOOR HINGES.

DECKO PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES THAT ARISE IN CONNECTION WITH USE, OR INABILITY TO USE THIS PRODUCT.

Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Opener Assembly Parts





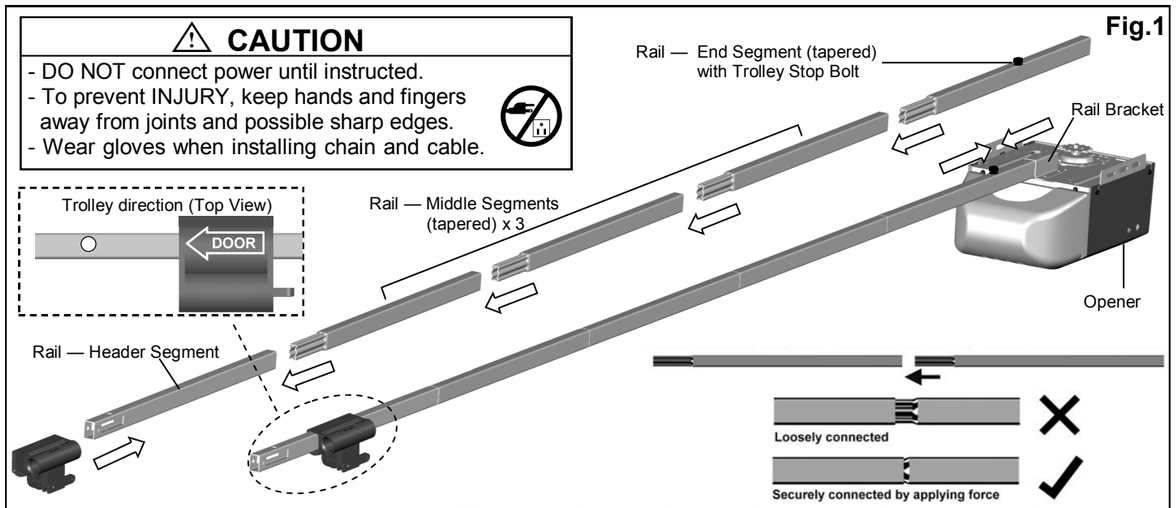
Item	Part No.	Name / Description
1	24935	Sprocket Cover
2	*	Sprocket and gear assembly
3	*	Chassis
4	*	Lamp plate
5	24905	Lamp Dome
6	*	Capacitor
7	*	Capacitor holder
8	*	Motor assembly
9	*	RPM wheel
10	*	Logic Board holder
11	*	Logic Board
12	*	Limit system driving gear
13	*	Limit system assembly
14	24937	Opener cover

* Should be replaced by qualified technician only

Rail and Trolley Assembly

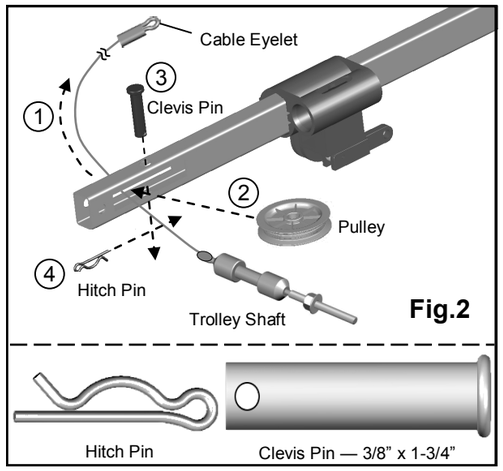
⚠ CAUTION

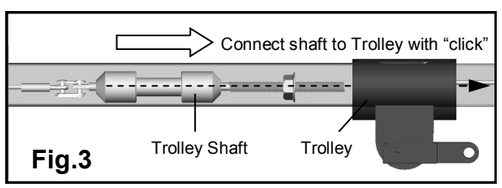
- DO NOT connect power until instructed.
- To prevent INJURY, keep hands and fingers away from joints and possible sharp edges.
- Wear gloves when installing chain and cable.

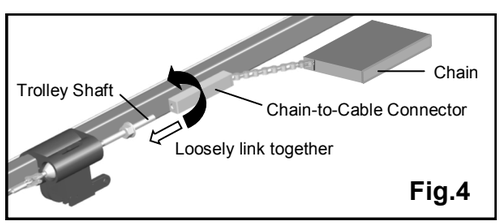


When connecting the rails ensure they are securely connected as shown above. To apply additional force tap gently on the end of the rail with a rubber mallet*.

*Only use a soft rubber mallet to tap on the end of the rails as other tools may damage your rail.







To Assemble Rail and Opener

1. Prepare the rails as shown in Fig.1.
2. Connect the rails starting with the Header Segment. Insert the tapered ends into open ends, apply any additional force necessary by tapping the Rail on padded flooring. Ensure the End Segment has Trolley Stop Bolt facing up. Make sure the rails are securely joined together as shown.
3. Slide the Trolley onto the rail from the Header Segment. Make sure the arrow is pointing towards the door as shown in Fig.1.
4. Connect the rail assembly to the Rail Bracket on the Opener.

To Assemble the Header Section of Rail

Follow steps shown in Fig.2:

1. Remove the "Trolley Shaft and Cable" from the Chain carton and lay it beside the rail assembly. Hold Cable Eyelet on the end of cable and thread about 20" (50cm) through the slot on the Header Segment of the rail.
2. Insert the Pulley into the opening while the cable is hanging.
3. Secure the Pulley by inserting the 3/8" x 1-3/4" Clevis Pin through the top of the rail.
4. Lock the Clevis Pin with a Hitch Pin. Rotate the Pulley to ensure it spins smoothly.

Refer to Fig.3 to connect the Trolley Shaft to the Trolley. Slide both the Trolley Shaft and Trolley towards each other. A "click" will be heard when they are connected.

To Link Cable with Chain

Refer to Fig.4. Place the chain carton beside the rail, hold the "Chain to Cable Connector" and pull about 8" (20cm) of chain from the box. Thread the Chain to Cable Connector onto the Trolley Shaft so that they are loosely linked together.

Installing Cable and Chain

⚠ WARNING

To prevent SERIOUS INJURY:
- DO NOT connect power until instructed.
- Keep hands and fingers clear from sprocket during operation.
- Wear gloves when installing chain and cable.
- Keep hands and fingers away from joints and possible sharp edges.

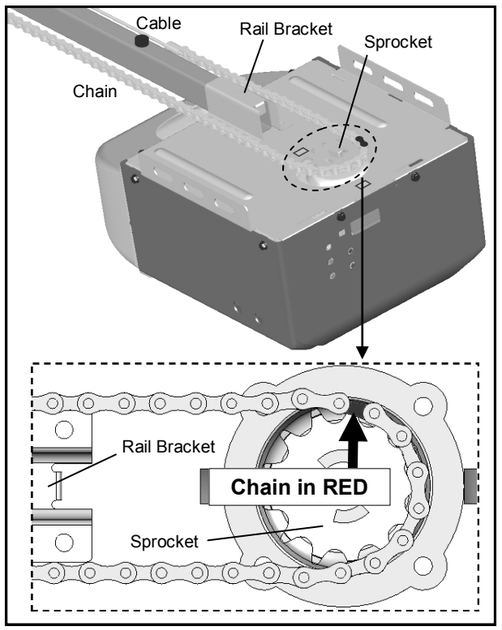


Fig.1

To Connect and Tighten the Chain:

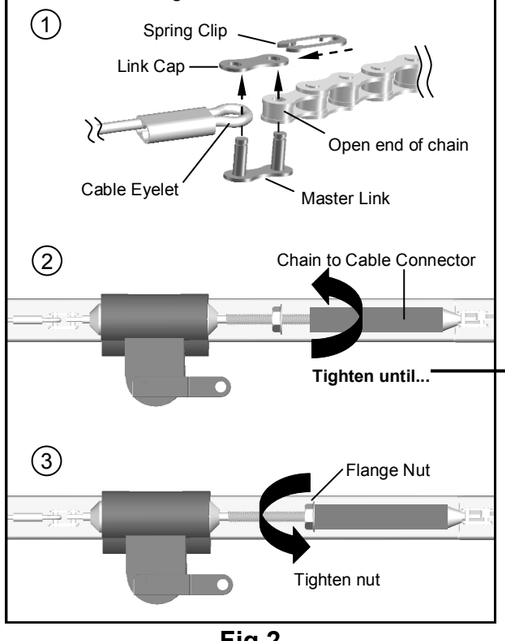


Fig.2

To Install Chain

1. Pull the remaining chain along the rail toward the Opener.
2. A segment of chain marked in RED will be seen. Place this segment in the approximate location on the sprocket as shown in Fig.1.
3. When the chain is aligned properly around the sprocket, pull the Chain-to-Cable Connector towards the Trolley Shaft.

Follow steps shown in Fig.2 to connect & tighten the chain:

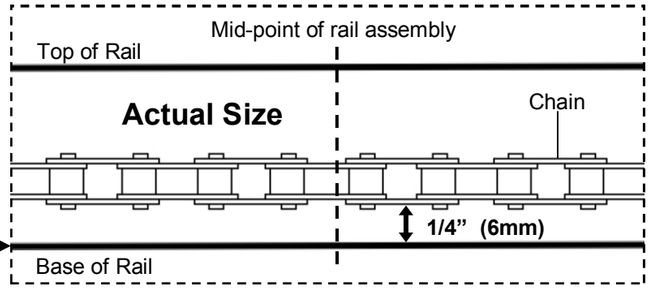
1. Align the open end of the chain to the Cable Eyelet and connect together using the Master Link Set.
2. Turn the Chain-to-Cable Connector on the Trolley Shaft until the chain is about 1/4" (6mm) above the base of the rail. Compare with the illustration below.
3. Tighten the Flange Nut on Trolley Shaft against the Chain-to -Cable Connector.

When the chain and cable are tightened around the rail and sprocket on the Opener, check and make sure the chain is properly aligned and not twisted. Attach the Sprocket Cover to the Opener as shown in Fig.3.

Notice

During operation, it is normal for the chain to appear loose when the door is closed. If the chain returns to the position as shown below when the door is opened, the chain is adjusted properly. DO NOT re-tighten the chain.

When performing maintenance, always PULL the Emergency Release to DISCONNECT the door from Opener before adjusting the chain.



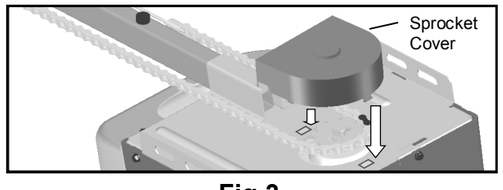
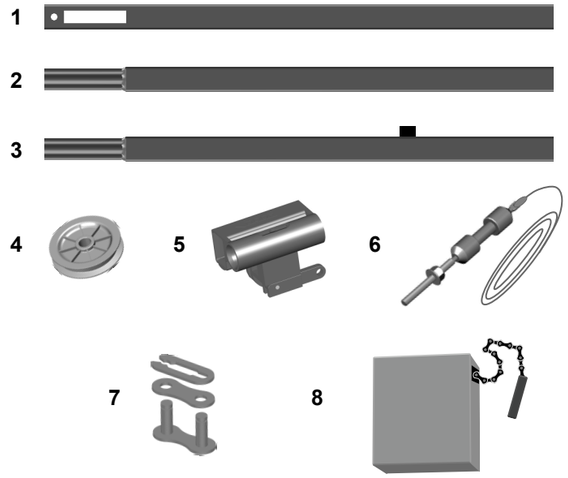


Fig.3

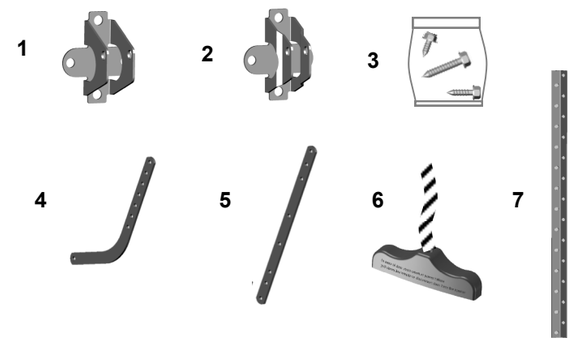
Repair Parts

Rail Assembly Parts



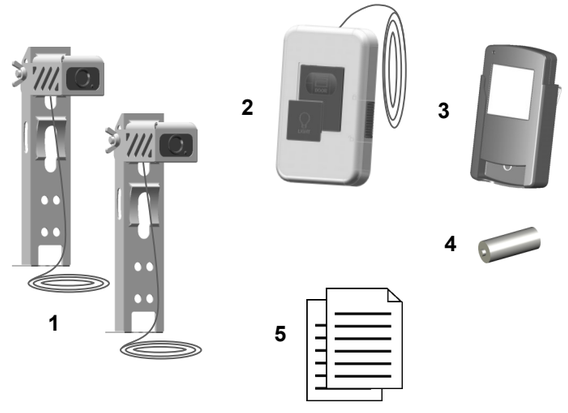
Item	Part No.	Name / Description
1	24911	Rail—Header Segment
2	24909	Rail—Middle segment
3	24910	Rail—End segment with Stop Bolt
4	24929	Pulley
5	24927	Trolley
6	24928	Trolley Shaft and Cable
7	24907	Master Link Set
8	24908	Chain

Installation Parts



Item	Part No.	Name / Description
1	24919	Header Bracket
2	24917	Door Bracket
3	24925	Hardware Bag (Installation hardware shown on P.3)
4	24921	Curved Door Arm
5	24923	Straight Door Arm
6	24924	Emergency Release Knob & Rope
7	24941	Hanging Bracket

Accessories



Item	Part No.	Name / Description
1	24913	Photo Eye Safety System (Emitter + Sensor with Brackets)
2	24915	Wall Panel
3	24111	Hand-held Transmitter
4	24939	12V alkaline battery
5	24000-M	Owner's manual

Maintenance

Schedule	Maintenance
Once a month	Door balance test, refer to page 4. Safety reverse test, refer to page 18.
Twice a year	Check chain tension (refer to page 6 for adjustment if necessary).
Once a year	- Limit and Force adjustment may be necessary due to weather conditions. Refer to pages 16-17 for adjustment. Conduct Safety Reverse Test after ANY adjustments. - Lubricate door rollers, bearings and hinges. The Opener is permanently lubricated, DO NOT lubricate or grease the Opener, rail or door tracks.

Troubleshooting

Problem	Possible Cause / Solution
Opener does not close and light flashes	The Photo Eye may be obstructed, not properly aligned or installed, check connection and alignment referring to pages 13 & 15.
Opener does not respond to Transmitter	- Refer page 19 to reprogram Transmitter. - Check Transmitter battery
Opener stops before reaching full open / close position	Either the Travel Limit or Force is not properly adjusted, check adjustment referring to pages 16-17. Conduct Safety Reverse Test after ANY adjustment.
The door reverses unintentionally	- Make sure the Photo Eye Safety System is aligned and clear of obstructions. - Refer to page 4 to check the door balance - Refer to page 17 to re-adjust the force
The door reverses upon touching the floor and the courtesy light flashes	Refer to page 16 to decrease Close Limit by 1/4 turn until door stops as intended at the fully closed position. Conduct Safety Reverse Test after ANY adjustment.
The courtesy light flashes 5 times and the Opener does not start	Opener motor overheat, please wait about 15 minutes and retry.
The Opener does not close the door and the indicator on one of the Photo Eyes flashes	The Photo Eye Safety System is misaligned or obstructed, refer to page14 for proper alignment.
The Opener is working properly but the courtesy light does not turn on	Replace light bulb (A19 incandescent Max.100W).
The courtesy light does not turn off	Defective Logic Board.
The Opener hums as the Trolley hits the Trolley Stop Bolt in open travel	1. Make sure the Trolley is towards the Trolley Stop Bolt. 2. Disconnect the Trolley by using the Emergency Release. 3. Close the door manually 4. Relieve the chain tension by loosening both the Chain-to-Cable Connector and the Flange Nut (see page 6) 5. Operate the Opener so the Trolley Shaft travels towards the door (Trolley should be kept disconnected) 6. Refer to page 16 to decrease Open Travel Limit by 2 full turns 7. Refer to page 6 to re-tighten the chain until it is 1/4” (6mm) above the base of rail (reference the figure shown on page 6). 8. Repeat the above steps if the Trolley still hits the Stop Bolt.

Mounting Header Bracket

⚠ WARNING

To prevent SERIOUS INJURY:

- DO NOT connect power until instructed.
- The Header Bracket MUST be SECURELY fastened to the structural support on the mounting wall or ceiling, otherwise the door may not reverse when required. DO NOT install the Header Bracket over drywall.
- Concrete anchors MUST be used when mounting the Header Bracket into masonry.
- NEVER try to loosen, move or adjust garage door springs, cables, Pulleys, Brackets, or hardware, all of which are under EXTREME tension.
- Contact a qualified garage door service technician if your door binds, sticks or is unbalanced. An unbalanced door might not reverse when required.

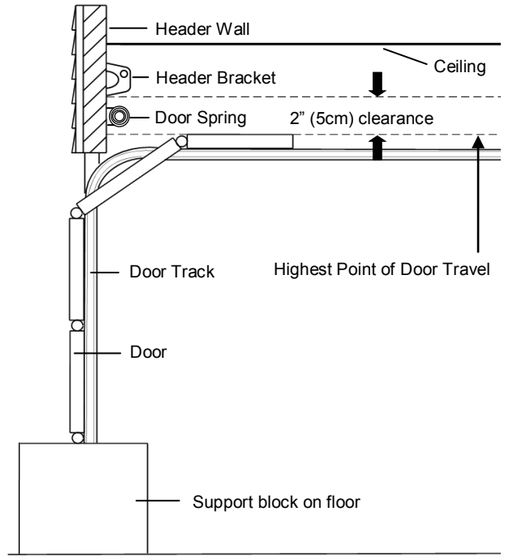


Fig.1

To Install Header Bracket

Note: Installation procedures may vary according to door type.

1. While inside your garage, close the door and mark the vertical centerline of the garage door. Extend the line onto the header wall above the door spring.
2. Open the door to the highest point of travel. Mark a line on the header wall 2“ (5cm) above the highest point of travel.

Note: DO NOT install the Header Bracket over drywall. In some installations, it may be necessary to install a 2x4 across two wall studs to create a suitable location for the Header Bracket.

If installing into masonry, use concrete anchors (not provided).

Wall-Mounting

As shown in Fig.2, place the Header Bracket on the vertical centerline in direction shown.

Mark and drill two 3/16” holes. Fasten the Header Bracket securely to a structural support using two 5/16” x 1-1/2” Lag Screws.

Alternative Ceiling-Mounting

Ceiling-mounting is suggested ONLY when clearance is minimal.

Extend the vertical centerline onto the ceiling as shown in Fig.3. Center the Header Bracket on the vertical mark, no more than 6” (15cm) from the header wall. Mark and drill holes to fasten the Header Bracket securely to a structural support.

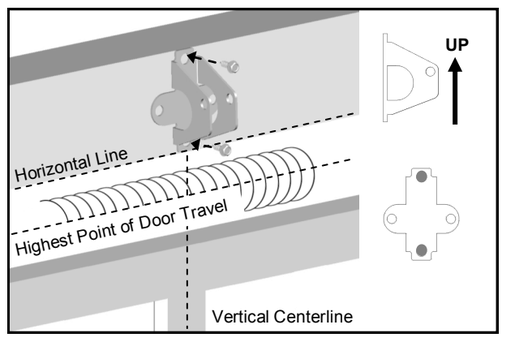


Fig.2 (Wall-Mounting)

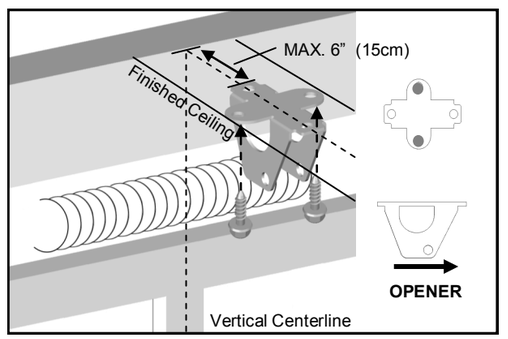
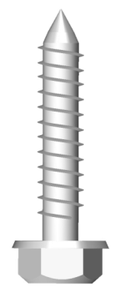


Fig.3 (Ceiling-Mounting)



Lag Screw
5/16” x 1-1/2”

Attaching Rail to Header Bracket and Mounting Door Bracket

⚠ CAUTION

To prevent SERIOUS INJURY:

- DO NOT connect power until instructed.
- REINFORCEMENT is recommended for fiberglass, aluminum or lightweight steel garage doors BEFORE installing the door Bracket. Contact your door manufacturer for reinforcement options.

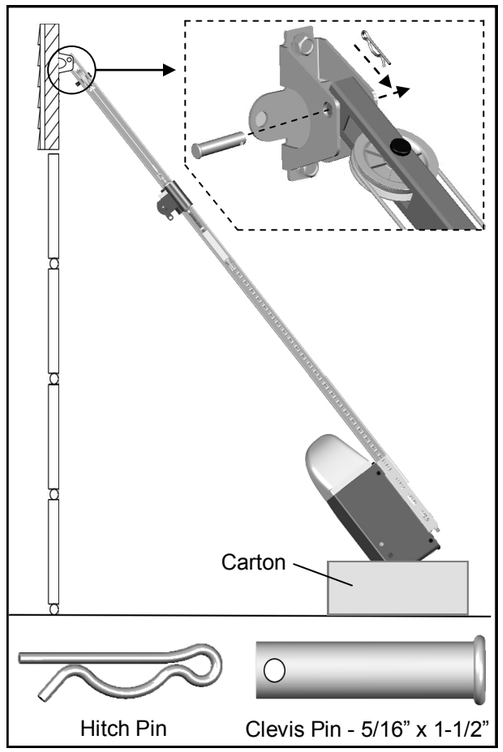


Fig.1

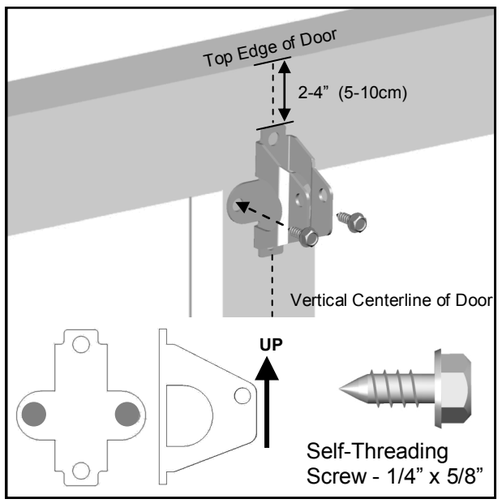


Fig.2

To Attach the Opener to the Header Bracket

1. As shown in Fig.1, use the packaging carton as temporary support for the Opener. Place the Opener on carton to prevent damage.
2. Align the mounting hole on the header rail to the mounting hole on the Header Bracket.
3. Connect the Header Rail and the Door Bracket together with a 5/16" x 1-1/2" Clevis Pin and lock it in place with a Hitch Pin.

To mount the Door Bracket

Note: Some door reinforcement kits may provide direct attachment of the door arm to the reinforcement bracket. If you have a door reinforcement bracket with this option, skip this step and proceed with the next step "Mounting Opener to Ceiling".

1. Position the Door Bracket on the centerline of the door approximately 2" - 4" (5-10cm) below the top edge of the door, as shown in Fig.2.
2. Depending on the construction of your door, install using one of the steps shown if Fig. 3 below:

For steel / lightweight doors with vertical steel reinforcements / factory reinforced.

(a) Mark and drill two 3/16" holes. Make sure not to drill through the garage door. Secure the Door Bracket with two 1/4" x 5/8" Self-Threading Screws (provided) as shown in Fig.3(a).

(b) Alternative installation: Drill two 5/16" holes through the door. Secure the Door Bracket using two 5/16" Bolts, lock washers and nuts (not provided) as shown in Fig.3(b). The length of bolts will depend on the thickness of your door.

Wood door

(c) Mark and drill two 5/16" holes through the garage door. Secure the Door Bracket using two 5/16" carriage bolts, washers and nuts (not provided) as shown in Fig.3(c). The length of bolts will depend on the thickness of your door.

Note: DO NOT use Self-Threading Screws on a wood door.

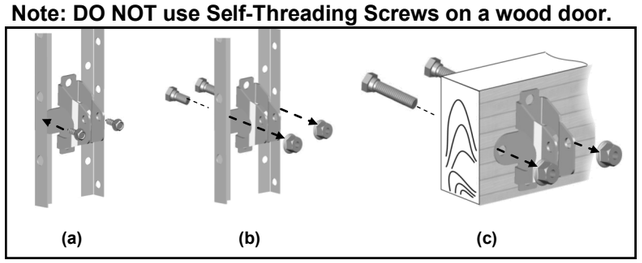


Fig.3

Door Status vs. Activation

Door status	Activation using Push Button / Transmitter
Door at fully open / close position	Door will move to fully close / open position
Door is closing	Door will reverse
Door is opening	Door will stop
Door is stopped as intended in partially open position	Close
Door is obstructed while closing	Door will reverse while flashing courtesy light
Door is obstructed while opening	Door will stop
Door is fully opened and Photo Eye System is obstructed	Door will not close

Courtesy Light Responses

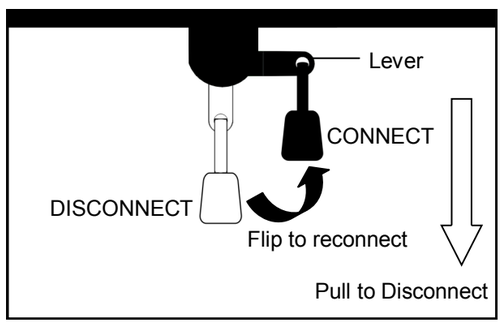
Operation / Condition	Courtesy Light Response
Opener is initially plugged-in / Power restored	Flashes twice
Upon Opener activation	Turns on for 3-1/2 minutes and turns off automatically
"LEARN" button is pressed	Turns on for 30 seconds
Remote Transmitter / Keyless Entry PIN code accepted	Flashes twice
The Photo Eye System is obstructed during door-closing or door is obstructed during opening	Flashes for 30 seconds (Re-align and clear obstruction)
Opener motor overheat (Thermal Protection)	Flashes 5 times (Wait about 15 minutes to cool down)

Manual Operation

⚠ WARNING

To Prevent SERIOUS INJURY or DEATH:

- Use Emergency Release to disconnect Trolley ONLY when the door is CLOSED to prevent unexpected rapid falling in case of a unbalanced / poor-conditioned door.
- Use Emergency Release ONLY when doorway is clear of persons and obstructions.
- DO NOT use Emergency Release to pull the door open or closed.



In case of a power failure or door obstruction, PULL EMERGENCY Knob to release door from Opener.

To Disconnect Trolley for Manual Operation

With the door closed, pull down the emergency release knob to the DISCONNECT position. The door can be raised / lowered manually.

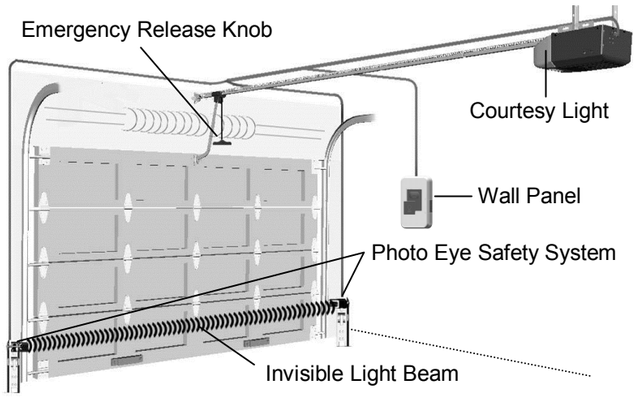
To Re-connect Trolley

Pull the knob toward the Opener so that the lever will flip up to the CONNECT position. The Trolley will reconnect itself when the Opener is activated or when the door is manually opened/ closed

Operating the Opener

⚠ WARNING

To Prevent SERIOUS INJURY or DEATH:
- READ AND FOLLOW ALL INSTRUCTIONS AND WARNINGS IN THE OWNER'S MANUAL AND LABELS
- Keep Transmitter and battery out of reach of children.
- NEVER permit children to access the Push Button or remote Transmitters.
- Operate the door ONLY when it is properly adjusted, and there are no obstructions and is in clear sight.
- ALWAYS keep a moving door in sight until completely closed. NEVER cross the path of a moving door.
- If Travel limit adjustment is made, Force Adjustment may also needed.
- After ANY adjustments, the Safety Reverse Test MUST be performed to ensure the door reverses on contact with a 1-1/2" thick object (2x4 laid flat).
- ALWAYS ensure that your door is balanced and in good working condition.



Actual Operating Scenario

Activating the Opener

Controls	Operation
Wall Panel (Indoor)	Momentray press the "DOOR" button on the Wall Panel, the door starts to move, and controls as follows: - Open or close the door. - Reverse the door while it is closing - Stops the door while it is opening. - Close the door when the Photo Eye Safety System is not installed, misaligned or obstructed INTENTIONALLY.
Hand-Held Transmitter	Same functions* as the Push Button with remote distance up to 100ft. in open field. *For safety concerns, the Hand-Held Transmitter WON'T work if the Photo Eye Safety System is not properly installed and aligned.
Keyless Entry (Optional)	Program the Keyless Entry pad accordingly and access the door using the PIN code.

Mounting Opener to Ceiling

⚠ WARNING

To prevent SERIOUS INJURY or DEATH:
- DO NOT connect power until instructed.
- Install the Opener at least 7 feet (2.13m) above the floor.
- Fasten the Opener SECURELY to STRUCTURAL SUPPORTS of the garage to prevent falling.
- If installing Brackets to masonry, concrete anchors (not provided) MUST be used.

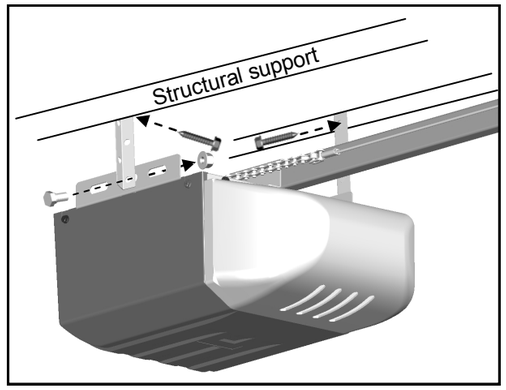


Fig.1

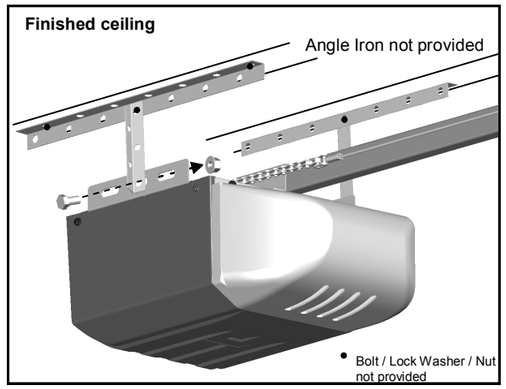


Fig.2

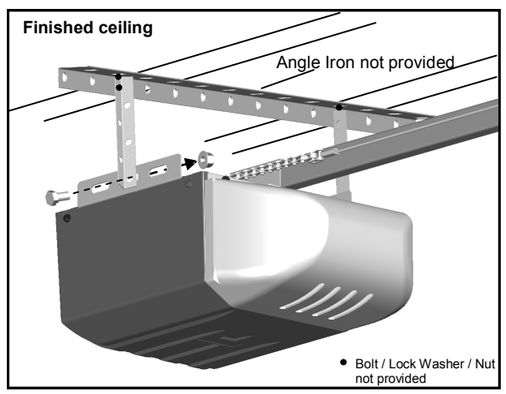


Fig.3

To Mount the Opener to Ceiling

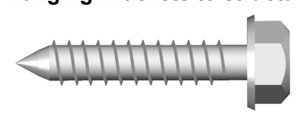
The three most common installation options are shown in Fig.1-3.

Fig.1 shows mounting the Opener directly to structural support on the ceiling. Fig.2 and 3 show mounting on a finished ceiling, with heavy duty angle iron*.
***(angle iron not included)**

Determine the mounting option that works best for your application and follow installation steps below:

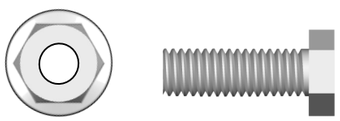
1. Raise the Opener and rail assembly and temporarily place it on a stepladder.
2. Position the Opener and rail assembly so that it is aligned to the center line of the garage door. If the Header Bracket was mounted off center, align the Opener with the Header Bracket.
3. Measure the distance from each side of the Opener to the structural supports.
4. Cut both Hanging Brackets to appropriate length.
5. Drill 3/16" holes in the structural supports.
6. Secure one end of each of the Hanging Brackets to the structural supports using 5/16" x1/2" Lag Screws (provided).
7. Secure the Opener to the Hanging Brackets and secure each side with a 5/16" x 1" Bolt and Flange Nut (provided).
8. Move the door manually to check clearance between highest point of travel of the door and rail. If the door hits the rail, raise the Header Bracket or adjust the mounting of Opener.
9. Remove the ladder ONLY when the Opener is securely mounted to the structural supports.

Fastening Hanging Brackets to structural supports



Lag Screw 5/16" x 1-1/2"

Securing Opener to Hanging Brackets



Flange Nut Bolt 5/16" x 1"

Attaching Door Arms

⚠ WARNING

To prevent SERIOUS INJURY:
- DO NOT connect power until instructed.
- Keep hands and fingers away from the sprocket during operation.
- Wear gloves when installing chain and cable.
- Keep hands and fingers away from joints and possible sharp edges.

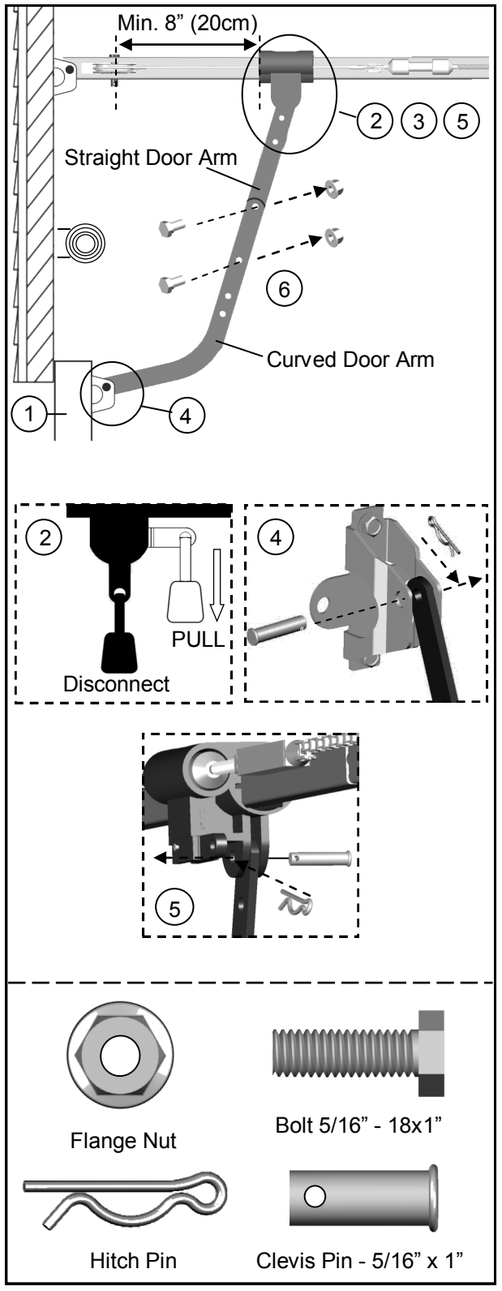


Fig.1

To Connect Door Arm

Follow the steps shown in Fig. 1

1. CLOSE the door.
2. Move the Emergency Release lever to the downward position to disconnect the Trolley from Trolley Shaft.
3. Slide the Trolley so that it is about 8” (20cm) from the Pulley.
4. Fasten the Curved Door Arm to the door Bracket with 5/16” x 1”Clevis Pin and lock it with a Hitch Pin.
5. Fasten the Straight Door Arm to the Trolley with a 5/16” x 1” Clevis Pin and lock it with a Hitch Pin.
6. To connect the door arms together, choose two pairs of holes which are as far apart as possible. Fasten the arms using two 5/16” x 1” Bolts and Flange Nuts.

Programming Hand-held Transmitter

⚠ WARNING

To Prevent SERIOUS INJURY or DEATH:
- Keep Transmitter and battery out of reach of children.
- NEVER permit children to access the Push Button nor remote Transmitters.
- Operate the door ONLY when it is properly adjusted, and there are no obstructions present.
- ALWAYS keep a moving door in sight until completely closed. NEVER cross the path of a moving door.

To reduce risk of fire, explosion or electric shock:
- DO NOT short circuit, recharge, dissemble or heat the battery.
- Replace with 23AE 12 Volt batteries ONLY. Dispose of batteries properly.

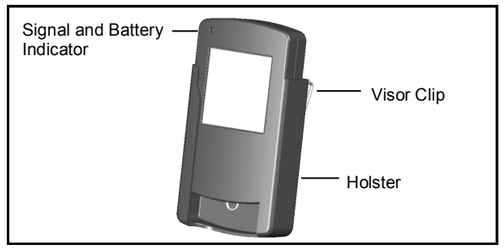


Fig.1

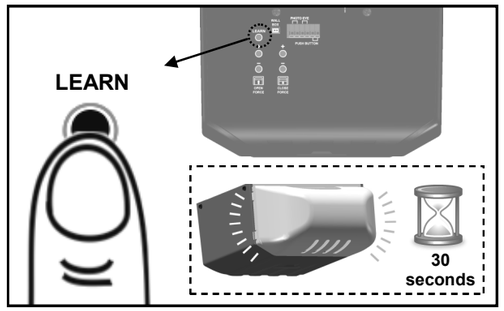


Fig.2

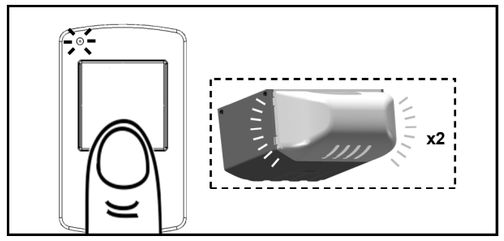


Fig.3

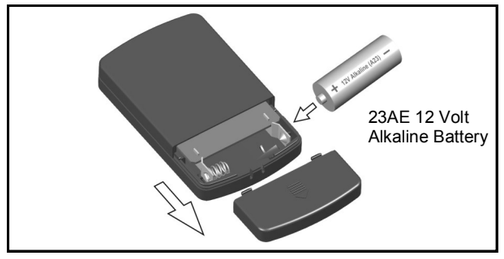


Fig.4

To Program Transmitter(s):

1. See Fig.2 to add a Transmitter. Press the “LEARN” button on the rear control panel of the Opener. The courtesy light will illuminate with an audible click*. The unit is now ready to learn a Transmitter.
2. Within 30 seconds, press the button on the Transmitter.
3. The courtesy light will flash twice indicating Transmitter has been stored successfully**.

Up to 20 Transmitters (including wireless keypad codes) can be added to the unit by repeating the above procedures.

If more than 20 Transmitters are stored, the first stored Transmitter will be replaced. (i.e. the 21st Transmitter replaces the 1st stored Transmitter.)

* If the courtesy light is already on, it will flash once and stay illuminated for 30 seconds.

** If a Transmitter is not accepted, the courtesy light will stay on for 30 seconds, flash 4 times and then stay on for 2-1/2 minutes. Retry programming the Transmitter by repeating the steps above.

Removing ALL Transmitters:

To remove ALL Transmitters from memory, press and hold the “LEARN” button for 5 seconds. The courtesy light will flash 7 times indicating ALL Transmitters have been removed from memory.

Replacing Transmitter Battery:

When the battery of the hand held Transmitter is low, the indicator light will become dim and/or the range of the Transmitter will diminish. To replace the battery, remove the battery cover from the Transmitter as shown in Fig 4. Replace with a 23AE 12 volt alkaline battery with polarity shown in Fig.4.

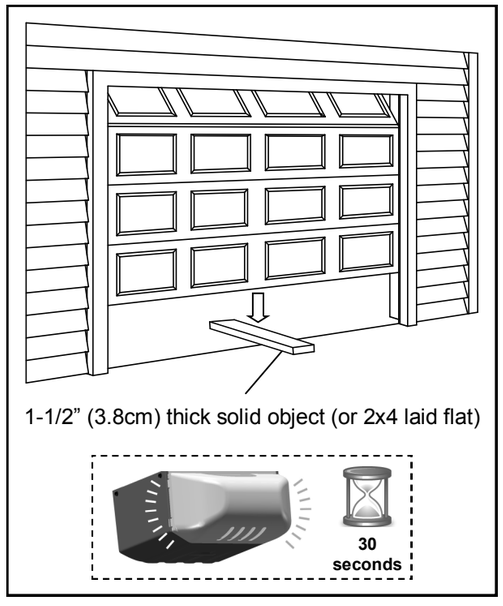
This device complies FCC Rules for HOME OR OFFICE USE. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Final Adjustments and Testing

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from a closing garage door:

- The Safety Reversal Test MUST be conducted ONCE A MONTH.
- NO ONE should cross the path of moving door during operation and/or testing.
- If either Force or Travel limit adjustment is made, the other adjustment may also needed.
- After ANY adjustments to the door system, the Safety Reverse Test MUST be performed to ensure the door reverses on contact with a 1-1/2" thick (2x4 laid flat) object.
- The Photo Eye Safety System MUST be properly aligned, and tested regularly.



Testing the Safety Reverse System

The Safety Reverse System prevents the door from closing when an obstruction is present.

1. Open the door by using the Wall Panel, Push Button or Transmitter
2. Place a 1-1/2" (3.8cm) thick solid object (or 2x4 laid flat) on floor under the center of garage door.
3. Keeping the door in sight, use the Wall Panel, Push Button or Transmitter to close the door.
4. The door MUST REVERSE upon striking the object within 1.5 seconds, and stop at the fully opened position.
5. The courtesy light will start flashing for 30 seconds upon triggering the Safety Reverse System.

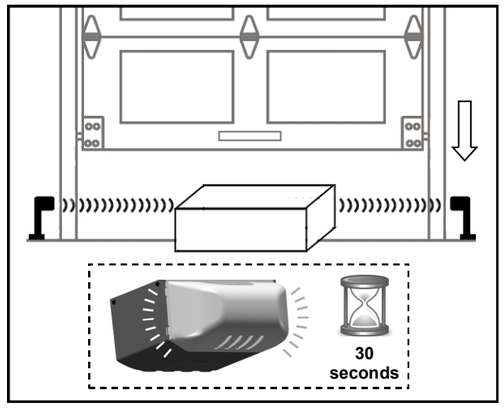
If the door just stops on the object, adjust the Opener as follows:

The close travel maybe inadequate, Increase Close travel limit by 1/4 turn (See **Limit Adjustment** on page 16)

Conduct the test again. If the door reverses on contact, remove the object and run at least 3 COMPLETE travel cycles to ensure proper adjustment.

If the door still does not reverse on the object, decrease the Close Force (see **Force Adjustment** on page 17) and repeat the test.

If the Opener still fails the Safety reverse Test, call a qualified technician for door adjustment.



Testing the Photo Eye Safety System

1. Open the door by using the Wall Panel, Push Button or Transmitter
2. Make sure both Photo Eyes steadily emit the green and red indicator lights. (If not, check alignment)
3. Place an object under the door about 8" (20cm) high by 12" (30cm) wide (the Opener carton can be used),
4. The red indicator light on the sensor eye should be dimmed.
5. Keep the door in sight and use the Push Button or Transmitter to try to close the door.
6. The door should NOT move more than 1" (2.5cm) and the courtesy light should flash for 30 seconds.

Installing Light and Emergency Release Knob

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from electrocution:

- Disconnect power cord before installing/replacing light bulb.

To prevent possible OVERHEATING or damage to Opener:

- Use ONLY A19 (E26) incandescent bulbs (100W max.).
- DO NOT use short neck or specialty light bulbs.
- DO NOT use halogen bulbs.

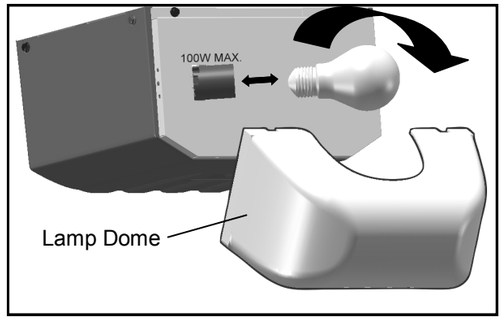


Fig. 1

To install the light:

1. Pull the Lamp Dome from the top and detach it from the Opener.
2. Install a standard A19 (E26) 100 watt maximum light bulb.
3. Re-attach the Lamp Dome.

Notice

When replacing the light bulb, make sure the bulb on the Opener has cooled down to prevent injury.

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from a falling garage door:

- In case of power failure or door obstruction, PULL EMERGENCY HANDLE to release door from Opener.
- When Emergency Release is in the released position, the door can be operated manually.
- To reconnect, flip the lever on the Trolley towards Opener, back to Connect position, it will reconnect automatically upon pressing Wall Panel, Push Button or remote control.
- DO NOT use Emergency handle to pull the door open or closed.

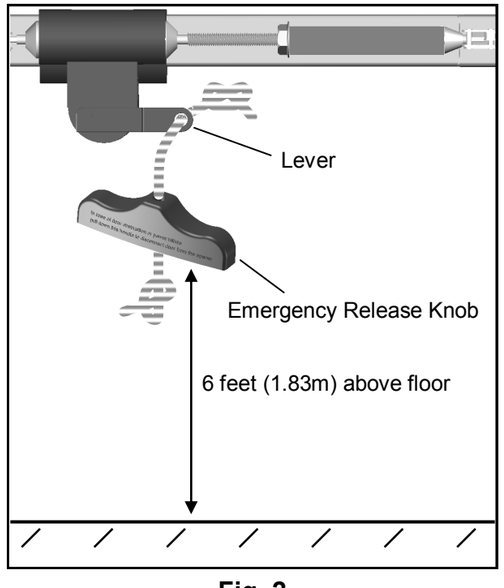


Fig. 2

To attach the Emergency Release Knob:

1. Thread one end of the rope through the hole of the Emergency Release Knob and secure with an overhand knot.
2. Thread the other end of the rope through the hole in the Trolley lever.
3. Measure the rope length so that the knob is 6 feet (183cm) above the floor and is clear from the top of your vehicle. Secure with a overhand knot.

Wiring Instructions

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from electrocution:

- Power MUST NOT be connected until instructed.
- NO exposed part of the wire should be visible outside of the terminal for proper connection.

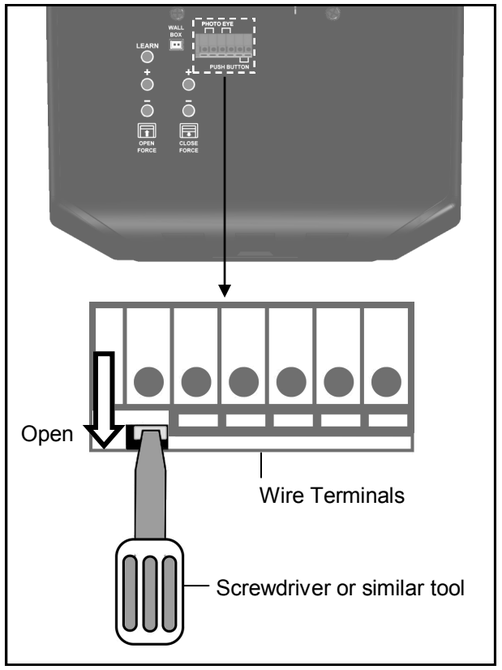


Fig. 1

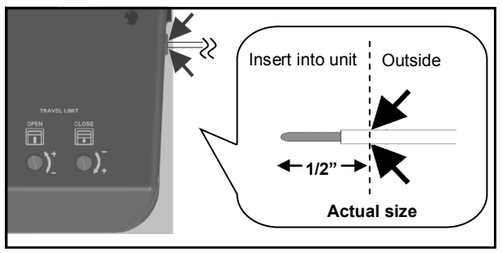


Fig. 2

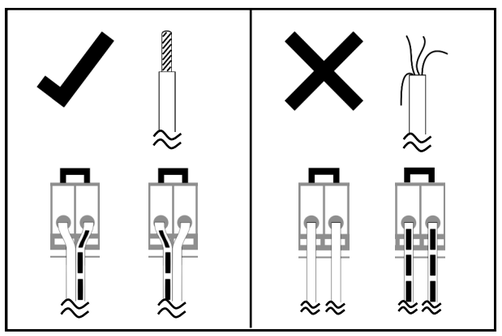
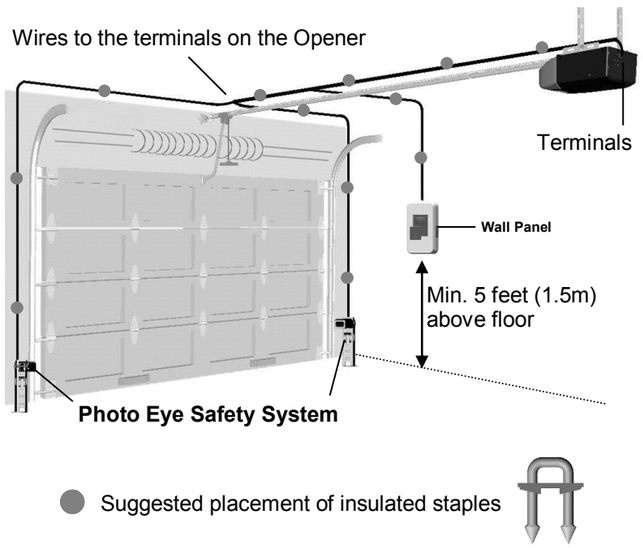


Fig. 3

In the following section, the Photo Eye Safety System will be connected to the Opener. Please read and understand the wiring instructions before connecting wires.

1. The connection terminals on the rear panel of the Opener are used to connect wires from accessories.
2. To connect a wire to an assigned terminal, use a small “flat head” screwdriver to push in the orange tab on the Wire Terminal as shown in Fig.1.
3. Insert approximately 1/2” (13mm) of the wire into the terminal while pushing in the tab as shown in Fig.2.
4. Wires MUST NOT be frayed and connected properly as shown in Fig.3. Each accessory requires a pair of terminals, Each pair of terminals MUST be connected with one white wire and one striped wire (non-polarized) from the SAME accessory.
5. Check for proper connection by gently pulling on the wire. The wire should not come out of the terminal. NO exposed part of the wire should be visible outside of the terminal.
6. Use the insulated staples provided to secure the wires to the wall and/or ceiling. Be careful not to damage the wires while securing the staples.

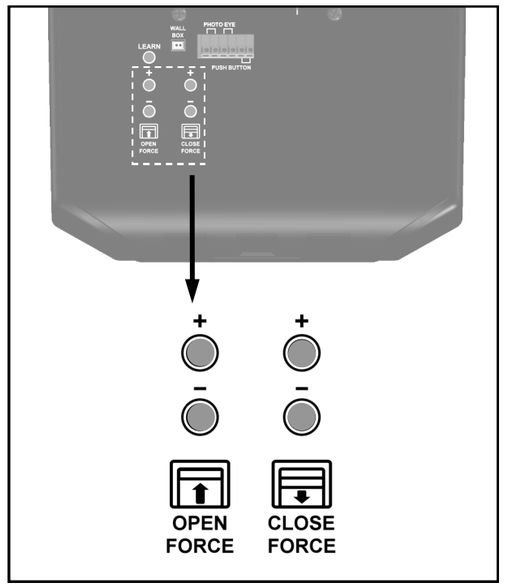

Wires to the terminals on the Opener
Terminals
Wall Panel
Min. 5 feet (1.5m) above floor
Photo Eye Safety System
Suggested placement of insulated staples

Force Adjustment

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from improper Force Adjustment:

- DO NOT adjust force to compensate for binding or sticking of the garage door. Call a qualified garage door service technician to make necessary adjustments in case of binding.
- DO NOT increase the force beyond minimum force required for closing the door. Too much force will cause improper operation of safety reversal mechanism.
- If either the Force or Travel limit adjustment is made, the other adjustment may also needed.
- After ANY adjustments, the Safety Reverse Test MUST be performed to ensure the door reverses on contact with a 1-1/2” thick object (2x4 laid flat) .



For safe operation, the force setting should always be set at the MINIMUM FORCE required to run the door.

Adjusting Force

1. Force Adjustment controls are located on the rear panel of the Opener. The force adjustments regulate the amount of force required to open or close the door.
2. Force Adjustment is applied only to compensate for the minor resistance caused by weather or other means.

- Note: Force is preset at level 6 for both Open and Close adjustments. The size and operating conditions of the garage door will determine the correct level of Force/ Sensitivity. Weather conditions may also affect the operation of the door requiring further adjustments as needed.
- Note: If the close force is set too light the Opener will reverse the door during closing. If the open force is set too light the Opener will stop the door during opening.
- Note: There are 12 levels for open and close force settings. When either the maximum or minimum level is reached, the light will flash 6 times.
- Never adjust the force setting by more than 1 level (1 press) at a time.

Setting Force

Setting Close Force

1. If the door completes a full close cycle without reversing, decrease (-) the Close Force by 1 level at a time until the door reverses. If the door reverses during closing, increase (+) Close Force by 1 increment. The Close Force is now properly adjusted.
2. During the ”door-close” cycle, the Opener will reverse if the force required to close the door is exceeded.

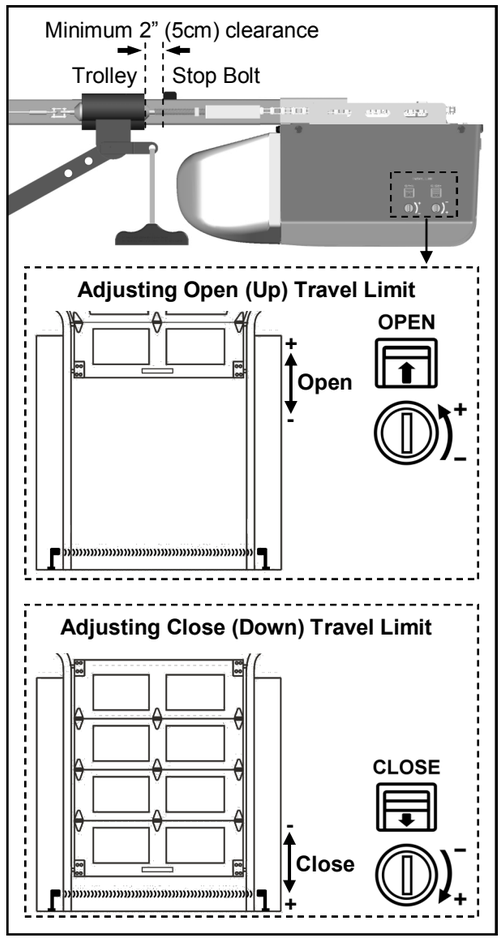
Setting Open Force

1. If the door completes a full open cycle without stopping, decrease (-) the amount of force by 1 level until the door stops during the opening. Once the door stops during opening, increase (+) Open Force by 1 increment. The Close Force is now properly adjusted.
2. During the “door-open” cycle the Opener will stop if the force required to open the door is exceeded.

Travel Limit Adjustment

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from improper Force Adjustment:
- Improper adjustment of travel limits will cause operation of safety reversal mechanism.
- If Travel limit adjustment is made, Force Adjustment may also needed.
- After ANY adjustments, the Safety Reverse Test MUST be performed to ensure the door reverses on contact with a 1-1/2" thick object (2x4 laid flat).



If the door reverses unintentionally during closing, check below symptoms:

1. The Photo Eye System may be improperly connected, misaligned or obstructed The courtesy light will flash continuously for 30 seconds. Refer to **Troubleshooting** on P.22.
2. Binding door — Disconnect the door from the Opener by using the Emergency Release Handle. Open and close the door manually and check the following steps.
   - 2.1 If the door is balanced, refer to "Force Adjustment" to adjust Close force.
   - 2.2 If the door is unbalanced, binding or jammed, call a trained service person to adjust the door.

About Travel Limits

Limit Adjustments regulate the position at which the door will stop when opening and closing.

BEFORE making any adjustments, operate the door by using the Wall Panel, Push Button or Transmitter. Run the Opener through a complete cycle.

If the door opens and closes completely without unintended reversing upon closing — NO adjustment is necessary.

If the door does not open or close at desired positions, proceed with the instructions below to adjust the travel limits.

Adjusting Travel Limits

Open and Close Limits can be increased (+) or decreased (-) by turning the corresponding screws on the Opener. Use a "flat head" screwdriver to make adjustments. One full turn of the screw is about 2" (5cm) of actual travel.

NOTE: The Opener motor includes an automatic thermal protection system which will shut down the motor in an overheat situation. The thermal protector will reset itself once the motor cools down. Opening and closing the Opener multiple times (in a short period of time) may cause the motor to overheat and shut down. If this happens, wait about 15 minutes for the motor to cool and retry operation.

Setting OPEN (UP) Travel Limit

1. CLOSE the garage door by using either the Transmitter, Wall Panel or Push Button.
2. Adjust the OPEN Limit Screw.
3. OPEN garage door and check for proper adjustment.
4. Repeat steps 1-3 until the door opens to the desired position. When the door is in the open position, make sure there is enough clearance for your vehicle(s), and there is a minimum 2" (5cm) gap between Trolley and Stop Bolt.
5. Perform **Safety Reverse Test** on page 18.

If the door does not open past 5 feet (1.5m), follow **Force Adjustment** on page 17 to adjust the Open Force.

Setting CLOSE (DOWN) Travel Limit

1. OPEN the garage door by using either the Transmitter, Wall Panel or Push Button.
2. Adjust the CLOSE Limit Screw.
3. CLOSE the garage door and check for proper adjustment.
4. Repeat steps 1-3 until door closes to the desired position.
5. Perform **Safety Reverse Test** on page 18.

Connecting Photo Eye Safety System

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from electrocution:
- Power MUST NOT be connected BEFORE Photo Eye Safety system is connected and aligned.
- The Opener will not operate until the Photo Eye Safety System is properly connected and aligned.
- Install the Photo Eyes NO higher than 6" (15cm) above the floor.

No part of garage door or other objects should obstruct the Photo Eye Safety System during door-closing.

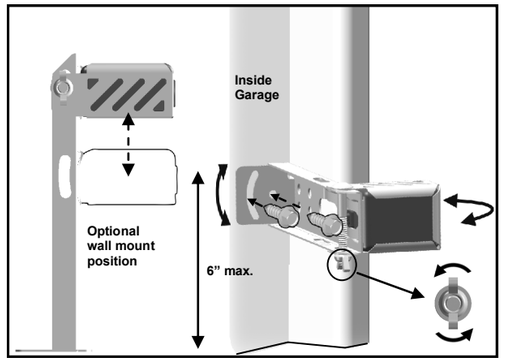


Fig. 1 (Wall Mount)

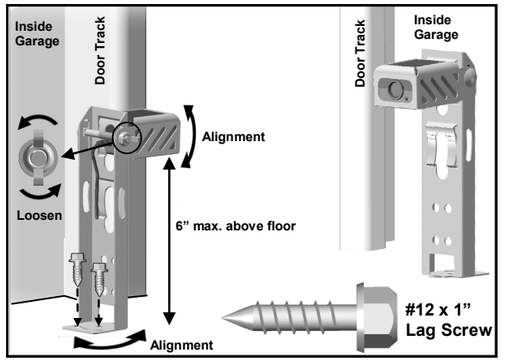


Fig. 2 (Floor Mount)

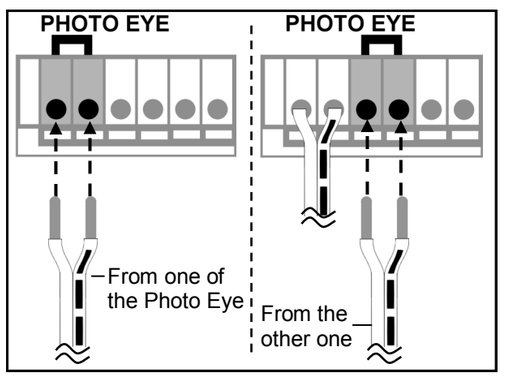


Fig. 3

About the Photo Eye Safety System

The Photo Eye Safety System provides protection against entrapment while the door is closing. When properly connected and aligned, the emitter Photo Eye emits an invisible infrared light beam while the Sensor Photo Eye monitors that beam.

If the beam is obstructed during door-closing, the entrapment protection will be triggered and the door will stop and reverse to the open position. The courtesy light will flash for 30 seconds indicating an obstruction.

Installing The Photo Eye Safety System

Wall-mounting

1. Place the Photo Eyes facing each other on each side of the garage door. Position the sensors so they are no higher than 6" (15cm) above the floor, as shown in Fig.1.
2. Drill 3/16" holes using the mounting holes on the Bracket as a template. Secure with #12 x 1" Lag Screws (provided).
3. If necessary use the Optional Wall-mount Position (Fig.1) to better fit your door-track and improve obstacle avoidance. To adjust the position, loosen the wing nut, disassemble the Bracket and move the Photo Eye to the lower position on the holder.
4. If necessary, align the Photo Eyes by loosening the wing nut . (This step may be further required in **Aligning the Photo Eye Safety System** on page 15.)

Alternative Floor-mounting

1. Place the Photo Eyes facing each other on each side of the garage door, as shown in Fig.2.
2. If attaching to concrete, secure the photo eyes using concrete anchors and bolts (not provided).
3. If necessary, align the Photo Eyes by loosening the wing nut. (This step may be further required in **Aligning the Photo Eye Safety System** on page 15.)

To Connect Photo Eye Safety System

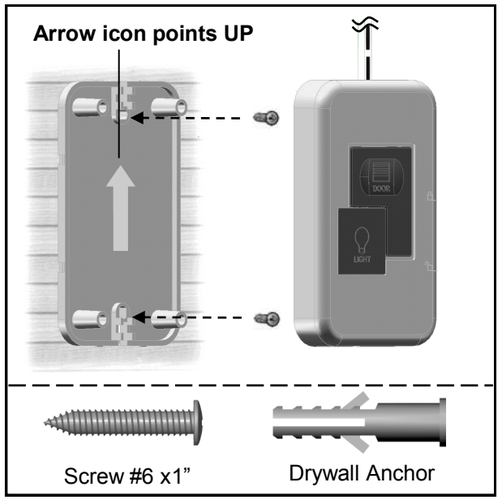
1. Connect a pair of wires from either one of the Photo Eyes to a pair of "PHOTO EYE" terminals on the rear of the Opener as shown in Fig. 3. Refer to **Wiring Instructions** on page 12 for proper connections.
2. Repeat above step to connect the other Photo Eye.
3. Refer to **Wiring Instructions** on page 12 to ensure wires are connected properly.

Connecting Wall Panel

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from electrocution:
- Power MUST NOT be connected until instructed.

To prevent SERIOUS INJURY or DEATH from using the Wall Panel or Push Button and a closing door:
- Install the Wall Panel or Push Button within sight of the door at a minimum height of 5 feet (1.5m) above the floor. Make sure it is out of the reach of children and moving parts of door and hardware.
- NEVER permit children to access the Wall Panel, Push Button or remote Transmitters.
- Operate the door ONLY when it is adjusted properly with no obstructions present and is in clear sight.
- ALWAYS keep a moving door in sight until it's completely closed.
- NEVER cross the path of a moving door.



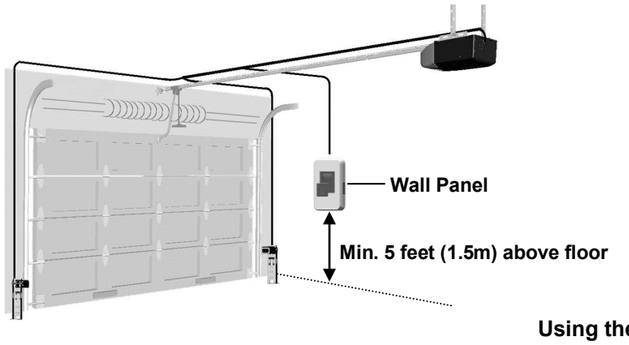
The Wall Panel is a wired, illuminated door control placed inside your garage.

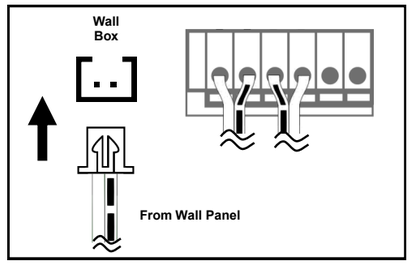
To install the Wall Panel:

1. Inside your garage, install the rear cover of the Wall Panel within sight of the door at a minimum height of 5 feet (1.5m) off the ground. Ensure it is installed out of the reach of children and free from the moving parts of the door and hardware.
2. With the "Arrow" icon on the rear cover pointing to up, securely fasten it to a solid surface with 1" screws. If attaching to drywall or other hollow surface, drill 3/16" holes and use the provided Drywall Anchors.
3. Snap the Wall Panel onto the rear cover.

To Connect the Wall Panel to the Opener

Connect the pair of wires from the Wall Panel to the "Wall Box" terminals on the rear of the Opener.





Using the Wall Panel

(ONLY after installation is completed and power is connected as instructed.)

Door—Momentary press to access the door

Light– Turns the courtesy light On/Off

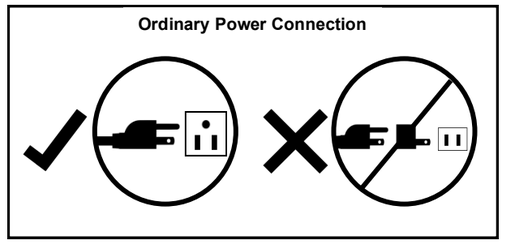
Vacation Lock
OFF — Door can be accessed by either access controls

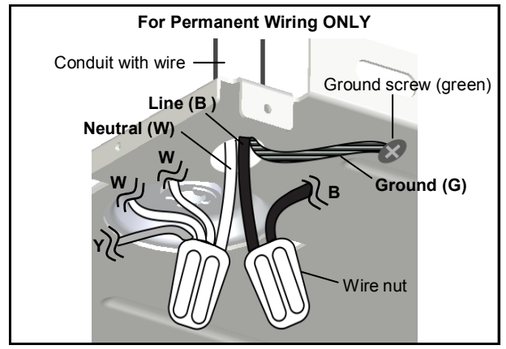
ON — Prevent access of door by Remote Transmitters and Door button

Connecting Power

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from electrocution or fire:
- Power MUST be DISCONNECTED BEFORE proceeding with permanent wiring procedures.
- Garage Door Opener installation and wiring MUST be in compliance with all local electrical and building codes. Make sure the Opener is ALWAYS grounded.
- NEVER use an extension cord, 2-wire adapter or modify the power plug in any way to make it fit the outlet.





DO NOT OPERATE OPENER AT THIS TIME.

To Connect Power

Plug the Opener into a grounded outlet ONLY. If there is no grounded outlet present, call a qualified electrician to replace the outlet.

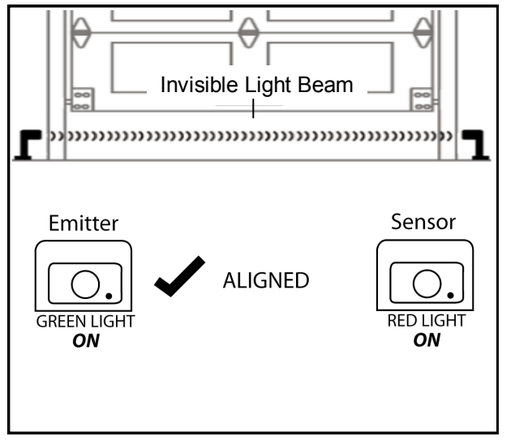
Permanent Wiring (If Required by Local Code)

1. Remove the enclosure by removing the 6 screws located on the sides and rear of the Opener.
2. Cut the two wire connectors found inside and remove the power cord.
3. Group neutral (white) wires from power source with 2 white (W) wires and 1 yellow (Y) wire inside the Opener. Connect them with a wire nut (not provided).
4. Group line (black) wires from power source with black wire (B) inside the Opener. Connect them with a wire nut (not provided).
5. Secure the ground (green or bare) wire from the power source with a grounding screw.
6. Reinstall the enclosure.
7. Turn on power supply. If the wiring is properly connected, a "click" should be heard and the light will illuminate (if a bulb is installed). If there is no response from the Opener, check power source and wiring.

Aligning the Photo Eye Safety System

⚠ WARNING

To prevent SERIOUS INJURY or DEATH from a closing garage door:
- The Photo Eye Safety System MUST be installed BEFORE connecting power.
- The Photo Eye Safety System MUST be properly connected and aligned BEFORE operating the Opener.



To Align the Photo Eye Safety System:

1. When the Photo Eye System is properly connected and the power is connected, one of the Photo Eyes will emit a steady green light. This Photo Eye is the Emitter that generates the Invisible Light Beam.
2. When properly aligned, the Sensor should emit a steady red light when it senses the invisible light beam from the Emitter.
3. If the indication is unsteady, flashes or is dim, check for any obstructions and adjust the position until the Sensor gives a STEADY RED LIGHT.

Note: The path of the invisible light beam MUST NOT be obstructed. No part of the garage door or any hardware should interfere with the beam or the Opener will not close the door.